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Notes:

1. Untranslatable words are replaced with asterisks (* **).
2. Texts in the figures are not translated and shown as it is.

Translated: 08:52:03 JST 05/13/2009

Dictionary: Last updated 04/14/2009 / Priority.

CLAIM + DETAILED DESCRIPTION

[Claim(s)]

[Claim 1] [on one field of a pouch-like packaging bag which consists of a laminated plastic film] An inside comrade whom said plastic film counters leaves a non seal part in the center, and a joining-the-palms-together seal is carried out in a circumference part of methods of three, said field top -- abbreviated -- a packaging bag for microwave ovens corresponding to a retort, wherein a fin part which rises perpendicularly is formed and an automatic disconnection means of internal steam is provided in said non seal part of this fin part.

[Claim 2] A packaging bag for microwave ovens corresponding to the retort according to claim 1 being what depended on said automatic disconnection means forming in the central part a punctiform seal part which has at least one penetration hole which consists of edges or notches at least.

[Claim 3] A packaging bag for microwave ovens corresponding to the retort according to claim 1 being what depended on said automatic disconnection means forming an annular seal part around a punctiform non seal part which has said at least one penetration hole in the central part.

[Claim 4] A packaging bag for microwave ovens corresponding to the retort according to claim 1 being what depended on said automatic disconnection means forming an annular seal part around a punctiform pattern seal part which has said at least one penetration hole in the central part.

[Claim 5] A packaging bag for microwave ovens corresponding to the retort according to any one of claims 1 to 4 in which seal intensity after retorting in said punctiform seal part or said annular seal part is characterized by being less than 20N/15mm more than 23N/15mm and above 90 degreeC at normal temperature.

[Claim 6] [range from the central point of one field of said pouch-like packaging bag to said punctiform seal part or said annular seal part] A packaging bag for microwave ovens corresponding to the retort according to any one of claims 1 to 5 being within the limits of distance from said central part to a common-law marriage of a side seal part for nearby bag manufacture.

[Claim 7] The packaging bag for microwave ovens according to any one of claims 1 to 6, wherein the shortest distance to a rim of said penetration hole and said punctiform seal part and the shortest width of said annular seal part are within the limits of 3-10 mm.

[Claim 8] A packaging bag for microwave ovens corresponding to the retort according to any one of claims 1 to 7, wherein distance of the shorter one is 1/2 or less [of distance of the longer one] among distance with

both side seal part common-law marriage almost parallel to a fin part formed in one field of said pouch-like packaging bag, and this fin part.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]Not only the stable handling in which it does not explode at the time of heating by a microwave oven or cooking by heating, and a content does not boil over is possible, but this invention relates to the packaging bag of the shape of a pouch which can retort a content.

[0002]

[Description of the Prior Art][prevention of the burst by rise of the internal pressure of the packaging bag which occurs when heating or cooking by heating with a microwave oven from the former, with foodstuffs packed] Cut some packaging bags with scissors, or. [in advance of heating or cooking heating] A means to be that in which the tip sharpened and to open the penetration hole (JP,9-24075,A), A means to provide the layer of the nonwoven fabric from which steam escapes to some packaging bags in the manufacture process of a packaging bag (JP,9-240753,A), A means (JP,9-142541,A) to provide the weak seal part which is easy to open, a means to provide end **** which is easy to open to a seal part, Or the means (JP,2000-72189,A, JP,10-147371,A, JP,10-101154,A) etc. which narrow the seal width partially are used or proposed.

[0003]

[Problem to be solved by the invention]However, it is troublesome, and a pouch packaging bag explodes during heating and the work of it which opens a penetration hole in a packaging bag, puts a break into it in part before heating or cooking by heating, or is cut off is dangerous, if you forget it. If a nonwoven fabric is used, a perfect sealing system cannot be obtained, but the problem which causes freeze-drying when it is frozen food is also generated, and use of a nonwoven fabric has a problem which causes the cost rise of bag manufacture processing. Since it falls within a range in the case of the foodstuffs in which the content contained sap when cut to the surrounding seal part of a pouch packaging bag, and providing **** or narrowing the seal width partially, it must hold in the state where the pouch packaging bag was stood in the range, and is troublesome. Since it is specified that more than 23N/15mm is required for the seal intensity of a retort-pouch-packaging bag, if it is in the old packaging bag for microwave ovens, there is a problem of it becoming impossible to use it in a retort use. This invention was made in view of the above problem, and, [this invention] Without making steamy discharge automatically and causing a burst, even if it is equal to retorting as a retort pouch and performs heating or cooking by heating by a microwave oven in the state as it is, it aims at offer of the packaging bag for microwave ovens corresponding to the retort in which sap does not fall in the state where it was placed horizontally in a microwave oven, either.

[0004]

[Means for solving problem][a packaging bag for microwave ovens corresponding to a retort by this invention] An inside comrade to whom said plastic film counters on one field of a pouch-like packaging bag which consists of a laminated plastic film leaves a non seal part in the center, a joining-the-palms-together seal is carried out in a circumference part of methods of three -- said field top -- abbreviated -- a fin part

which rises perpendicularly being formed and, It is a thing, wherein an automatic disconnection means of internal steam is provided in said non seal part of this fin part, A punctiform seal part which has at least one penetration hole which becomes the central part from an edge or a notch at least about said automatic disconnection means is formed, It is realizable by forming an annular seal part around a punctiform non seal part which has said at least one penetration hole in the central part, or forming an annular seal part around a punctiform pattern seal part which has said at least one penetration hole in the central part. [a packaging bag for microwave ovens corresponding to a retort by this invention] Seal intensity after retorting in said punctiform seal part or said annular seal part is less than 20N/15mm at normal temperature more than 23N/15mm and above 90 degreeC, Range to one said punctiform seal part from the central point or said annular seal part of a field of said pouch-like packaging bag is within the limits of distance from said central part to a common-law marriage of a side seal part for nearby bag manufacture, The shortest distance to a rim of said penetration hole and said punctiform seal part and the shortest width of said annular seal part are within the limits of 3-10 mm, Distance of the shorter one is characterized by being 1/2 or less [of distance of the longer one] among distance with both side seal part common-law marriage almost parallel to a fin part formed in one field of said pouch-like packaging bag, and this fin part.

[0005]

[Mode for carrying out the invention] This invention is explained in more detail using Drawings. Drawing 1 is a perspective view of the packaging bag for microwave ovens corresponding to the retort by this invention. Drawing 1 (a) is a perspective view before bag manufacture, and drawing 1 (b) is an explanatory view of the piece of a film for bag manufacture. Although the packaging bag 10 for microwave ovens corresponding to the retort by this invention has opened one side wide by having the side seal part 2 in the methods of three before content restoration as shown in drawing 1 (a), an after [content restoration] seal is carried out and side seal part 2' is formed. being characteristic in this pouch packaging bag -- one field 1 top of that pouch-like packaging bag -- abbreviated -- it is that the fin part 3 which can be started perpendicularly is formed. The fin part 3 is formed in the position [center / of the longitudinal direction of this field 1] shifted, and it will always be pushed down on one side. This fin part 3 leaves non seal part N in the center for the inside comrade of the piece of a film which counters, carries out the joining-the-palms-together seal of the circumference part S of the method of three, is formed, and the processing section 4 which realizes the automatic disconnection means of internal steam is formed in that non seal part N. The packaging bag 10 for microwave ovens corresponding to the retort by above this inventions can be manufactured from three pieces of plastic films which generally consist of the films 1-3 as shown in drawing 1 (b).

[0006] Drawing 2 is an explanatory view of the automatic disconnection means in the packaging bag for microwave ovens corresponding to the retort by this invention. Any one of the 1st means thru/or the 3rd means of explaining below is provided in non seal part [of the fin part 3 of the packaging bag 10 for microwave ovens corresponding to the retort by this invention] N. The 1st means is because at least one penetration hole 8 which consists of edges or notches, and the punctiform seal part 5 which has 8' in the central part are formed, as shown in drawing 2 (a). As shown in drawing 2 (b), the 2nd means forms at least one penetration hole 8 which consists of edges or notches, and the punctiform non seal part 7 which has 8' in the central part, and depends it on surrounding the circumference by the annular seal part 6. As shown in drawing 2 (c), the 3rd means forms at least one penetration hole 8 which consists of edges or notches, and the punctiform pattern seal part 9 which has 8' in the central part, and depends it on surrounding the

circumference by the annular seal part 6. The number and shape of the penetration hole 8 and 8' are arbitrary, and the shape of an ellipse, the shape of an angle, etc. can be chosen arbitrarily, without also restraining annularly [circular / which is shown in a figure /, and a circle] the shape of the punctiform seal part 5 and the annular seal part 6. The seal pattern used for the pattern seal part 9 is not limited to the dot of drawing 2 (c), but can be freely chosen to the shape of a lattice, herringbone state, the shape of a tortoise shell, etc. The penetration hole 8 and 8' need to go out simultaneously with the seal of the punctiform seal part 5 and the annular seal part 6 at the time of bag manufacture, and can also be processed with an edge or a punch edge, and it is not necessary to perform them at another process, and they are efficient. The seal intensity after retorting in the above punctiform seal part 5 or annular seal part 6 is controlled to become less than 20N/15mm at normal temperature more than 23N/15mm and above 90 degreeC. This is business required as a packaging bag for microwave ovens which is retort correspondence, and this seal intensity is later mentioned for it in more detail.

[0007]Drawing 3 is a state explanatory view at the time of the automatic disconnection means of the packaging bag for microwave ovens corresponding to the retort by this invention functioning. The steam pressure generated by internal heating by a microwave oven acts so that the punctiform seal part 5 or the annular seal part 6 may be exfoliated from those perimeters, and the moment exfoliation advanced even to the central penetration hole 8, 8', or the punctiform non seal part 6, internal steam is automatically emitted from the penetration hole 8 and 8'. Drawing 3 shows the packaging bag 10 for microwave ovens corresponding to the retort by this invention with which it filled up in the section which passes the processing section 4 of an automatic disconnection means, It swells up with heating and the fin part 3 rises, and the retort pouch in front of heating shown in drawing 3 (a) emits steam from the penetration hole 8 and 8', as shown in drawing 3 (b). Since after the end of heating returns to the state of a basis as shown in drawing 3 (c) and, it cuts a part of the packaging bag, and should just take out a content. in addition -- and boiling over at the time of heating or cooking by heating, even if it is a case of foods with much sap according to the packaging bag 10 for microwave ovens corresponding to the retort by this invention, as shown also in this figure -- etc. -- it is rare to start and it can use a microwave oven in the always clean state. [liquid]

[0008]Drawing 4 is a size explanatory view of the main part of the packaging bag for microwave ovens corresponding to the retort by this invention. the [the above-mentioned 1st in the packaging bag 10 for microwave ovens corresponding to the retort by this invention -] -- in order to be stabilized and to operate the automatic disconnection means of three effectively, it is necessary to centralize the exfoliation stress by internal steam pressure to the punctiform seal part 5 or the annular seal part 6 For the purpose, it is preferred to set up the size of each part of a packaging bag as follows. . [namely, the range E from the central point / in / as shown in drawing 4 (a) / one field 1 of a pouch-like packaging bag / X to the punctiform seal part 5 in the processing section 4 or the annular seal part 6 of an automatic disconnection means] It is preferred to set up to be within the limits of the distance F from said central part X to the common-law marriage of the side seal part 2 for nearby bag manufacture. It is preferred to set up so that the distance of the shorter one may become 1/2 or less [of the distance of the longer one] among both the side seal parts 2 almost parallel to the fin part 3 and it which are formed in one field 1 of said pouch-like packaging bag, and the distance A and B with the common-law marriage of 2'. It becomes the easiest to concentrate exfoliation stress on the processing section 4 of an automatic disconnection means, and internal steam can be made to open wide in quicker heating lapsed time by giving such physical relationship. [what the shortest distance H

to the rim of the penetration hole 8 in the punctiform seal part 5 and the annular seal part 6, and 8' and the punctiform seal part 5 and the shortest width H of the annular seal part 6 are set up within the limits of 3-10 mm for by drawing 2 (a) and (b) so that it may be shown] It is business important for operating an automatic disconnection means in predetermined cooking time. If this shortest distance H or the shortest width H is larger than 10 mm, it will become impossible in opening of steam from the processing section 4 of an automatic disconnection means, and a possibility that bag tearing will occur comes out from the side seal part 2 and 2' (abbreviated 10mm width is ****ed). And if smaller than 3 mm, a possibility that seal intensity will carry out bag tearing at the time of past [weakness] and circulation will become large. In order to make effective exfoliation stress concentration of internal steam to the processing section 4 of the automatic disconnection means in the fin part 3, again, It may be made to provide guide seal part G of shape as shown in the explanatory view of the guide seal in the fin part of drawing 5 instead of the circumference part S of the methods of three shown in the fin part 3 of drawing 1.

[0009]The lamination plastic film which constitutes the packaging bag 10 for microwave ovens corresponding to the retort by this invention holds the sealant layer and barrier layer of an innermost side at least, and also combines a base material layer, an intermediate layer, etc. suitably. If the example of the laminated constitution is given, they will be a barrier layer / sealant layer, a barrier layer / intermediate layer / sealant layer, a base material layer / barrier layer / sealant layer, etc. in an order from the surface, for example. 40-100 micrometers of thickness of this sealant layer are 60-80 micrometers preferably. As a laminating method of each layer, although limitation in particular is not carried out, it can use the extrusion laminating method, the dry laminating method, etc., for example. Selection of the sealant layer in this layer composition becomes one point of this invention, and it is required more than 23N/15mm and above 90 degreeC less than 20N/15mm and to give the seal intensity not more than 15N/15mm preferably at normal temperature. If it cannot be used for a retort use and has the seal intensity beyond 20N/15mm less than [23N/15mm] above 90 degreeC, [it] [normal temperature] It is because automatic disconnection of internal steam does not take place but a burst occurs easily, and it is desirable for giving the stable automatic disconnection function less than 20N/15mm and to control to less than 15N/15mm preferably. Polyester resin, such as polyolefin system resin, such as a copolymer with the ethylene or alpha-OREFIN which makes polypropylene and propylene the main ingredients from the necessity of bearing the high temperature at the time of a retort, and polyethylene terephthalate, is suitable for a sealant layer. The polyolefin system resin compounded using the metallocene system catalyst and the back cycle transition metal complex catalyst, such as an ethylene and ethylene alpha-olefin copolymer and polypropylene, is also used. Although aluminum foil, an aluminum vapor deposition film, etc. which become the hindrance of microwave oven heating as a barrier layer cannot be used, A silica vapor deposition polyethylene terephthalate film, an alumina vapor deposition polyethylene terephthalate film, A silica vapor deposition extension nylon film, an alumina vapor deposition extension nylon film, As for a polyvinyl alcohol coat extension polypropylene film, and the nylon 6 / METAKISHI range amine nylon 6, ** can use [**] an oriented film, or polypropylene / ethylene vinyl alcohol copolymer for an oriented film etc. As a base material layer and an intermediate layer, for example A polyethylene terephthalate film, A silica vapor deposition polyethylene terephthalate film, an alumina vapor deposition polyethylene terephthalate film, An extension nylon film, a silica vapor deposition extension nylon film, an alumina vapor deposition extension nylon film, An extension polypropylene film, a polyvinyl alcohol coat extension polypropylene film, As for **, ** can use

nylon 6 / METAKISHI range amine nylon 6 for an oriented film, or polypropylene/ethylene vinyl alcohol copolymer, choosing suitably from oriented films etc.

[0010]The work-example sample and comparative example sample of the packaging bag 10 for microwave ovens corresponding to a retort by this invention were created in the following way, and the state of automatic disconnection of the steam heated and generated with 500W microwave oven was checked.

(EXAMPLE) The pouch packaging bag as shows drawing 4 (a) a work-example sample first using a 12-micrometer-thick polyethylene terephthalate film, a 15-micrometer-thick silica vapor deposition extension nylon film, and the lamination film that laminated the 60-micrometer unextended polypropylene film A sequentially from [this] the surface was manufactured. 150x220 mm and height D of the fin part 3 for the outer-measurements size of a pouch packaging bag in this bag manufacture 40 mm, The inside of the distance A and B which opts for position distribution of the fin part 3 in the longitudinal direction of one field 1, A shall be 140 mm and B shall be 60 mm so that the distance B of the shorter one may become 1/2 or less [of the distance A of the longer one], The method size C was 130 mm among the side seal part 2 of the shorter one which counters, and 2', and the distance F from the central point X of a field to a nearby seal part and the distance E to the processing section 4 of an automatic disconnection means were manufactured as 65 mm and 45 mm, respectively. Width of the side seal part 2 and 2' was set to abbreviated 10mm. The punctiform seal part 5 of the size as shown in drawing 4 (b) which formed the penetration hole 8 by one cut in the center was adopted as the automatic disconnection means. The shortest distance H to the rim of the penetration hole 8 and said punctiform seal part 5 was 5 mm, and it pressed down within the limits of 3-10 mm. The seal intensity of the punctiform seal part 5 of this work-example sample was 13.5N/15mm in 44.0N/15mm and 90 degreeC at normal temperature. It was filled up with 200g of curry roux from the open end part (this side side of drawing 4 (a)) of the above work-example sample, and when heating by an after-seal microwave oven with the side seal of 10-mm width was performed, steam emitted calmly from the penetration hole about 2 minutes afterward. this time -- a content - - boiling over -- there was nothing.

(Comparative example 1) Next, the same thing as a work-example sample was created as a comparative example sample except having used the unextended polypropylene film B for the sealant layer. The seal intensity of the punctiform seal part 5 of this comparative example sample was 27.8N/15mm in 59.4N/15mm and 90 degreeC at normal temperature. When this comparative example sample was heated like the work-example sample, bag tearing was carried out from a part of side seal part about 2 minutes afterward, and the content boiled over.

(Comparative example 2) The same thing as a work-example sample was created except not forming the penetration hole 8 by cut in the central part of the punctiform seal part 5. As a result of heating this similarly, the side seal part was torn, and a loud sound was raised, it exploded, and the content scattered.

(Comparative example 3) The same thing as a work example was created except being referred to [both] as 100 mm among [A and B] the sizes of the packaging bag in drawing 4 (a), and C being 130 mm. As a result of heating this similarly, the side seal part was torn, and a loud sound was raised, it exploded, and the content scattered.

(Comparative example 4) The same thing as a work example was created except 130 mm and E being 95 mm and F being 160 mm, 40 mm, and C 65 mm for the inside A and B of the size of the packaging bag in drawing 4 (a), respectively. As a result of heating this similarly, the side seal part was torn, and a loud sound

was raised, it exploded, and the content scattered.

[0011] Various modification is possible for the packaging bag 10 for microwave ovens corresponding to the retort by this invention within limits which do not deviate from the gist of this invention, without being limited to a description and Drawings of the mode of the above operation. For example, the composition of a pouch-like packaging bag should just be what can form a fin part in the field 1 of one of these. Even if it does not necessarily consist of the films 1-3 as shown in drawing 1, the seal of the center seal part of a certain pillow packing bag is carried out slightly long from the former, and it may be made to appropriate for the fin part 3 by this invention. The packaging bag 10 for microwave ovens corresponding to the retort by this invention is enough applied also as a packaging bag for boil processed by again more mild temperature conditions.

[0012]

[Effect of the Invention] The 1st automatic disconnection means by forming the penetration hole 8 which forms the fin part 3 in one field 1 of a pouch-like packaging bag, and becomes the non seal part N from at least one edge or a notch in the central part, and the punctiform seal part 5 which has 8' according to the packaging bag for microwave ovens corresponding to the retort by this invention, Said at least one penetration hole 8 and the punctiform non seal part 7 which has 8' are formed in the central part, Said at least one penetration hole 8 and the punctiform pattern seal part 9 which has 8' are formed in the 2nd automatic disconnection means by surrounding the circumference by the annular seal part 6, and the central part, [by establishing either of the 3rd automatic disconnection means by surrounding the circumference by the annular seal part 6] The seal intensity in said punctiform seal part 5 or said annular seal part 6 at normal temperature More than 23N/15mm. Control above 90 degreeC to less than 20N/15mm, and the range from the central point X in one field 1 of a pouch-like packaging bag to said punctiform seal part 5 or said annular seal part 6 is set up to be within the limits of the distance from said central part to the common-law marriage of the side seal part 2 for nearby bag manufacture, . [the shortest distance H to the rim of said penetration hole 8, and 8' and said punctiform seal part, and the shortest width H of said annular seal part] The inside of distance with the common-law marriage of both the side seal parts 2 still almost parallel to the fin part 3 formed in one field 1, and this fin part 3 by setting up within the limits of 3-10 mm, and 2', [the distance of the shorter one] [by setting or less / of the distance of the longer one / to 1/2] Though it is a pouch-like packaging bag of a retort use, it does not explode, even if it heats with a microwave oven in the state as it is, and moreover, even if it is a content with much sap, it can wipe and the packaging bag heating by a microwave oven with good user-friendliness or for cooking heating can be provided that it is hard to **** here.

[Translation done.]